

# LEGACY® *SERIES II*



High Performance Power Amplifier

**MODEL: LA 160**

Owner's Manual for Legacy Car Amplifiers

# INTRODUCTION

Thank you for purchasing the Legacy model LA160 series II High Speed Power Amplifier . The LA160 has been designed using the latest electronic technology available.

The LA160 is with engineered features allowing you to produce high quality stereo reproduction in mobile applications. This innovative system has been designed a 12 volts DC negative ground power supply. Easy installation with mounting hardware is provided.

The LA160 has two input levels. The high or low impedance input can be connected to units which incorporate BTL circuitry or common-ground types.

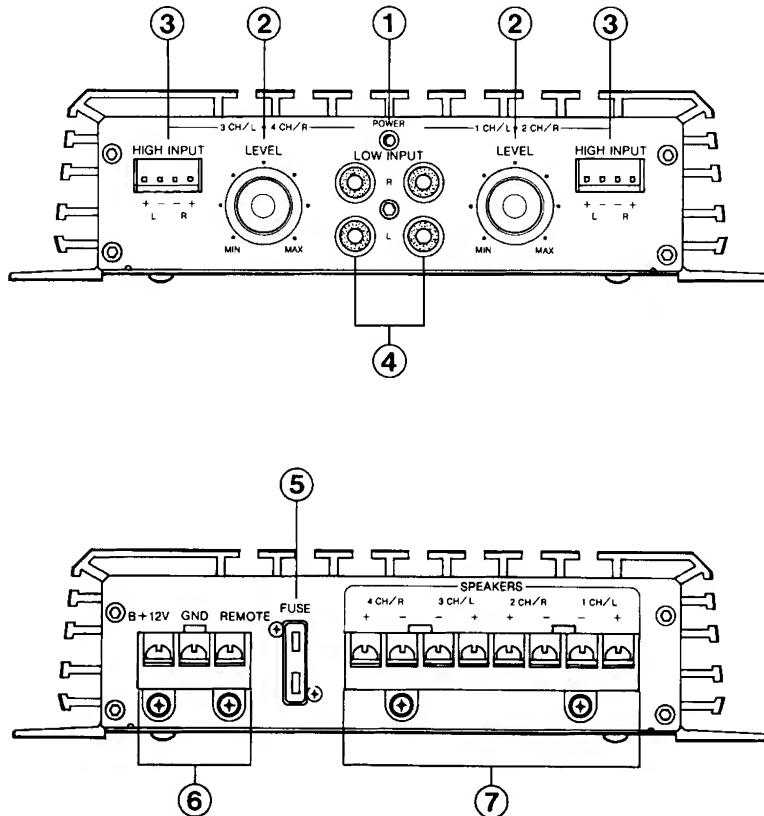


Figure 1

# **FUNCTIONS**

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## **1. POWER ON LED**

Lights up when the remote on system is energized.

## **2. INPUT GAIN CONTROL**

Adjust high impedance input gain from 1 V to 300mV for best matching with PREAMP output for your car stereo.

## **3. LOW IMPEDANCE INPUT (HIGH LEVEL INPUT)**

This unit is provided with two terminal inputs (Front & Rear) for LOW impedance. If Your car stereo has four speaker outputs (LF,RF,LR,RR). Wire input as per FIG. 3 & FIG 3A. If your car stereo has two speaker outputs, please wire as per FIG 4 & FIG 4A.

## **4. HIGH IMPEDANCE INPUT (LOW LEVEL INPUT)**

This unit is provided with gold plated RCA input jacks for high impedance. Couple the RCA input with the car stereo output using RCA type connector cables. If your stereo has only left and right 2 channels outputs. You must use a Y-adaptor for connection (FIG 2).

## **5. POWER FUSE**

power fuse protects both this amplifier and the automobile electrical system from wrong electrical conditions.

## **6. POWER SUPPLY TERMINAL**

Connect the +12V DC power supply wire into this terminal. By lugs and screws accessible at the panel of this amplifier (Fig. 5).

### **A.BATT +**

Connect +12VDC power supply wire into this terminal from the (+) terminal of the battery.

### **B.GROUND**

Ground terminal connects the ground wire from the chassis of the automobile.

### **C.REMOTE**

Remote terminal connects the control wire which provides remote turn-on and off of the amplifier by the RADIO/CASSETTE players power antenna wire.

## **7. SPEAKERS TERMINALS**

Speakers can be easily connected to signal barrier strip. You may use 4 to 8 ohms speakers. Before connecting, please check speaker connection diagrams.

# ELECTRICAL & AUDIO CONNECTIONS

## A. STEREO INPUT CONNECTION

### 1. High impedance input.

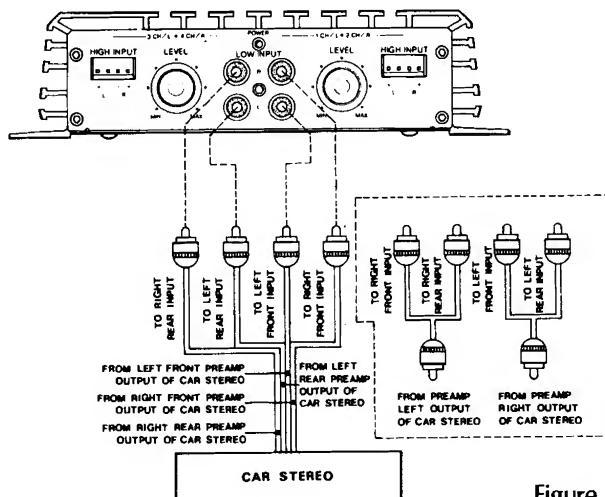


Figure 2

### 2. Low impedance (BTL or Common Ground) Input

#### a. Four Speaker Output Mode

##### a-1. Floating Ground Type

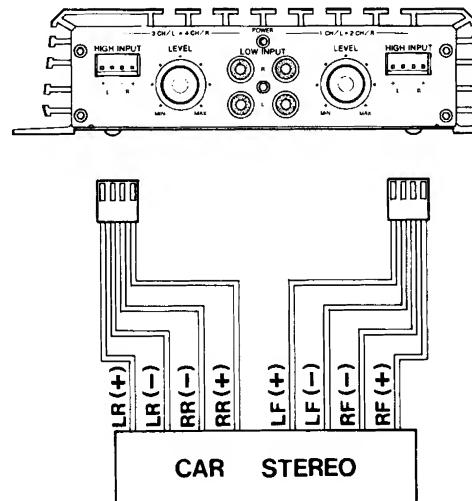


Figure 3

## ELECTRICAL & AUDIO CONNECTIONS

### a-2. Common Ground Type

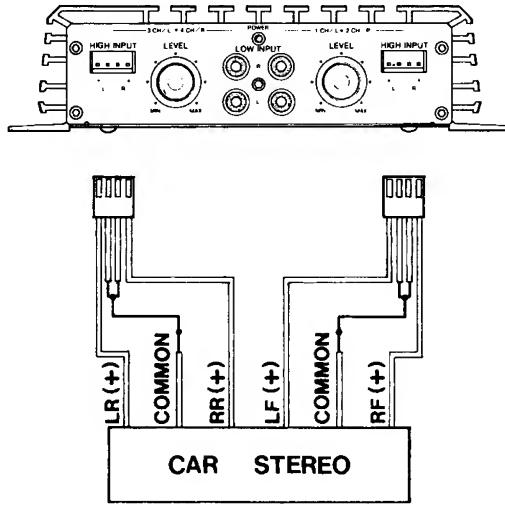


Figure 3A

### b.Two Speaker Output Mode

#### b-1. Floating Ground Type

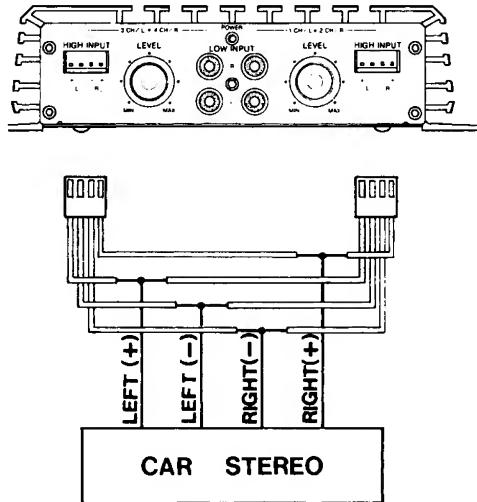


Figure 4

## ELECTRICAL & AUDIO CONNECTIONS

### b-2. Common Ground Type

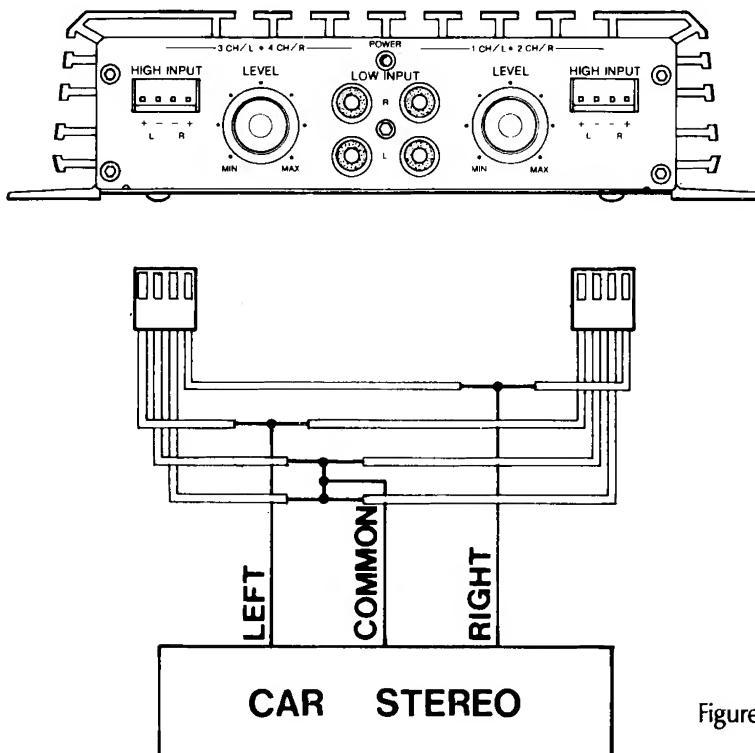


Figure 4A

NOTE: High and low impedance input can not be used at same time.

### B. SPEAKER CONNECTION

Connect the speaker output terminals to the corresponding speakers. (Figure 5) The speakers must be high quality and capable of handling high power. Separated return paths and strong wires are required. (Fig. 5)

NOTE: This amplifier has built-in short circuit protection. If you mistakenly connect any speaker wires to ground, or positive power (+) and (-) Wires short together, the protection circuit will operate automatically and cut-off output. In case of this, you must switch OFF the whole system immediately double check speaker wire connections and isolation before switching on the amplifier again.

# ELECTRICAL & AUDIO CONNECTIONS

## C. POWER CONNECTION

FIG. 5

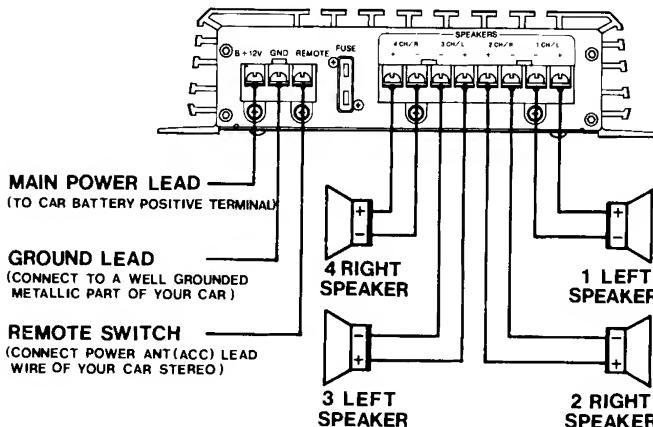


Figure 5

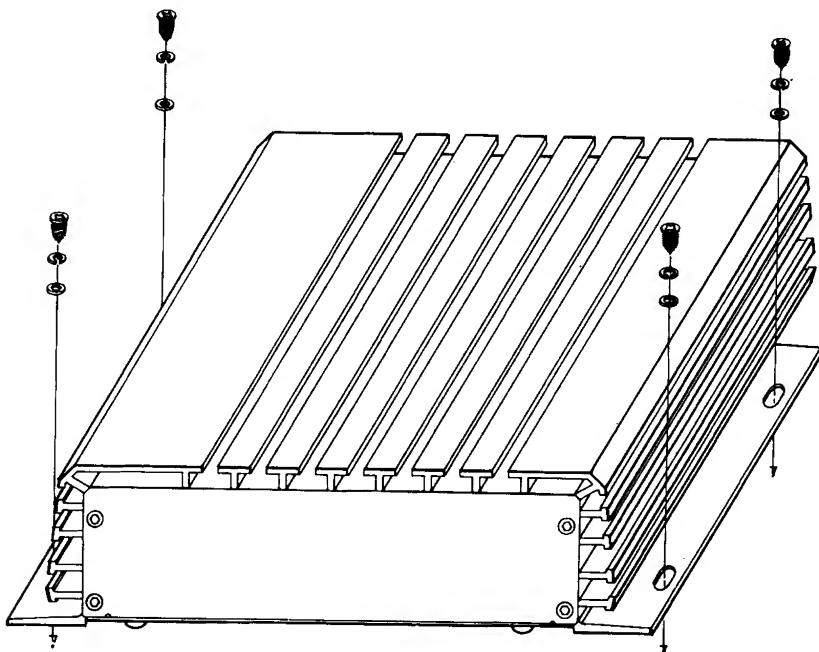
1. Connect the B+12V pole of power supply directly to the battery (+) position terminal.
2. Connect the GND pole of power supply directly to the (-) negative ground battery terminal or car chassis.
3. To make a good grounding and prevent motor boating noise problem connect another 12 gauge minimum wire from the (-) negative battery terminal to chassis of stereo unit.
4. Connect the 'Remote' pole to external switch for positive 12V ON/OFF. This may be connected to the receiver power antenna lead.

## INSTALLATION

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This amplifier comes complete with mounting hardware, if the unit is used in the line level (high impedance) mode, it is recommended to use gold plated RCA connection cables with the length as short as possible and mount the unit as close as possible to the receiver. This will lower the chance of stray magnetic pick up that may cause noise in the system.

1. Choose a suitable location.
2. Check the clearance behind and above the mounting area.
3. Wire unit according to the proper wiring diagram.
4. Using the hardware provided, attach the unit to mounting surface.



## MAINTENANCE

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Your LEGACY power Amplifier is an example of superior design and craftsmanship. The following suggestions will help you care for your amplifier so you can enjoy it for years.



Keep the amplifier dry. If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode electronic circuits.



Use and store the amplifier only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.



Handle the amplifier gently and carefully. Dropping it can damage circuit boards and cases and can cause the amplifier to work improperly.



Keep the amplifier away from dust and dirt, which can cause premature wear of parts.



Wipe the amplifier with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the amplifier.

## **TESTING AND SPECIFICATONS**

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1. After all the connections have been made, turn on your stereo and listen for the amplifier to turn on. If there are any unusual noises from the speakers then turn the system off and recheck all the wiring.
2. After you have connected your radio or equalizer to the amplifier, you may adjust the gain control to match the output level of your radio.
  - (A) Set the volume control on your radio to 2/3 position.
  - (B) Adjust the gain control for an average listening level.
  - (C) Turn the radio volume all the way down and listen for background noise.
  - (D) Start your vehicle and listen for electrical noise.
  - (E) Making fine adjustments to the sensitivity can reduce background noise and some engine noise.
  - (F) CAUTION: Never turn the sensitivity up any farther than you need to get clear sound at 2/3 volume.
  - (G) This adjustment only needs to be made once.

## **SPECIFICATIONS**

1. Output power  
    @14.4 V.D.C. 1KHZ.....75WX4 Max
2. Frequency Response .....15-30K Hz ( $\pm 3\text{db}$ )
3. Input Impedance.....10K ohms (Low Level)  
                               100 ohms (High Level)
4. Input Sensitivity  
    High Level.....2.5v  
    Low Level.....250mv
5. Power Supply Voltage.....DC 14.4V negative ground (10.5-16V)
6. Matching Speaker Impedance.....4-8 ohms
7. Maximum Current Draw.....10A
8. Dimensions.....200x50x202mm(W.H.D.)
9. Net Weight.....1.5kg

## **PRODUCT WARRANTY**

Legacy Audio Systems warrants this product to be from defective material or factory workmanship and will repair this unit or any part thereof if it proves defective in normal use or service within, 5 years from date of original purchase. This warranty is to the initial owner of the product and cannot be transferred. Our obligation under this warranty is limited to repairing the defective instrument or any part thereof when it is returned transportation prepaid to Legacy Systems. This warranty will be considered null and void if unit is tampered with, improperly serviced or subject to misuse, negligence or accidental damage. No unit will be accepted for warranty service if not accompanied by a receipt marked paid in full and a copy of this warranty card.

When returning for free warranty service, please include \$10.00 with unit to cover return postage and insurance. You must include a note detailing trouble you are having with the unit. The unit will be returned to you in the same cosmetic condition as it was received by us. Keep the packaging material that this unit came with and pack unit in it when returning for warranty service. The unit can be returned to any of the following locations:

**Legacy Audio Systems, Inc.**  
**1501 60 Street**  
**Brooklyn, NY 11219**

Please allow 4 weeks from the date of arrival for the unit to be returned to you. In most cases we will have the unit back to you way before this time limit. Out of warranty service is available at additional cost.

Model Number:

Serial Number:

Found on bottom plate of unit

Date Purchased:

Be sure to include a copy of this warranty with your paid receipt when returning item for free warranty service!

**[www.legacycaraudio.com](http://www.legacycaraudio.com)**